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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: **OHMI, et al.**

Group Art Unit: **3753**

Serial No.: **09/023,416**

Examiner: **FOX, John C.**

Filed: **February 13, 1998**

P.T.O. Confirmation No.: **6923**

For: **FLUID CONTROL APPARATUS**

SUBMISSION OF APPEAL BRIEF

Commissioner for Patents
Washington, D.C. 20231

November 4, 2002

Sir:

Submitted herewith are an original and two copies of an Appeal Brief in the above-identified U.S. patent application.

Also enclosed is a check in the amount of **\$320.00** to cover the cost of filing this Appeal Brief. In the event that any additional fees are due with respect to this paper, please charge Deposit Account No. 01-2340. This paper is filed in triplicate.

Respectfully submitted,

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ARMSTRONG, WESTERMAN & HATTORI, LLP

NOV 08 2002

Handwritten signature of John F. Carney

TECHNOLOGY CENTER R3700

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Enclosures: Duplicate of this paper; Appeal Brief and two copies; and check for **\$320.00**.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

APPEAL BRIEF FOR THE APPELLANTS

Ex parte OHMI, et al.

Serial Number: 09/023,416

Filed: February 13, 1998

Appeal No. : _____

Group Art Unit: 3753

Examiner: FOX, John C.

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PATENT TRADEMARK OFFICE

Date: November 4, 2002

Atty. Docket No. 980150



THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: **OHMI, et al.**

Serial No.: **09/023,416**

Filed: **February 13, 1998**

For: **FLUID CONTROL APPARATUS**

Appeal No: _____

Group Art Unit: **3753**

Examiner: **FOX, John C.**

P.T.O. Confirmation No.: 6923

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NOV 08 2002

TECHNOLOGY CENTER R3700

BRIEF ON APPEAL

Commissioner for Patents
Washington, D.C. 20231

Date: November 4, 2002

Sir:

I. REAL PARTY IN INTEREST

The real parties in interest in this appeal are Tadahiro Ohmi, 2-1-17-301 Komagefukuro, Aoba-ku, Sendai-shi, Myagi, Japan and Fujikin Incorporated, 3-2, Itachibor 2-chome, Nishi-ku, Osaka-shi, Osaka, Japan.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

This is an appeal from the final rejection of claim 1, given in the Office Action dated June 10, 2002, in the above-identified patent application, which is a Request for Continued Examination application from U.S. Patent Application Serial No. 09/023,416. (The rejection given in the Office Action is rendered somewhat unclear due to the fact that the rejection given on page 2 in the body of the Office Action is against claims 1 and 2 while the Office Action Summary that is part of the Office Action indicates that only claim 1 is rejected and that claims 2 to 12 are withdrawn from consideration. Since claim 2 depends from claim 7, a withdrawn claim, it is presumed that the Examiner's rejection applies only to claim 1. The withdrawn claims, claims 2 to 12, are currently embodied in the U.S. Patent Application Serial No. _____, filed as a division of the instant patent application.

The claim considered by the Appellants to be on appeal is claim 1.

IV. STATUS OF AMENDMENTS

By an amendment under 37 C.F.R. §1.117 filed concurrently herewith, the withdrawn claims, claims 2 to 12, are canceled from this application in favor of prosecution in the divisional application, U.S. Patent Application Serial No. _____ (not yet assigned). The following brief is in support of the patentability of claim 1 which appears in the Appendix hereof.

V. SUMMARY OF THE INVENTION

The present invention is as described in the specification and as best shown in Figures 3 to 7 of the application drawings. In the arrangement illustrated in Figure 4, the invention includes a fluid controller 3, and inlet and outlet on-off devices 6 to 7 and 8 to 10, respectively, which are arranged on the respective inlet and outlet sides of the fluid controller 3. The on-off devices in various selected arrangements may comprise one valve or a plurality of valves in which adjacent valves interconnect with each other. The invention contemplates that, in the construction of the various arrangements, each of the on-off devices are one of five kinds; that the main bodies of the valves are identical; that the ports of the respective valve main bodies are all aligned in a row; and that connections between adjacent valve main bodies are made by substantially identically formed joint members which contain internal passages instead of external tubing.

As a result of practice of the claimed invention, fluid control apparatus of compact size are produced as compared with comparable prior art devices that employ external tubing. For example, by use of the disclosed on-off devices, as compared with prior art equipment, reductions of 61% longitudinally, 42% horizontally and 26% area-wise are achieved.

Moreover, improved inventory due to a reduction in the required number of parts obtained via standardization of component design is achieved as a result of there being required with any of the concerned five types of on-off devices, valve main bodies of only two configuration, a two-part configuration and a three-part configuration.

VI. ISSUES

The principle issue presented for review is whether the Examiner erred in rejecting claim 1 under 35 U.S.C. §103(a) as unpatentable over the combined teachings of Itafuji (U.S. 5,819,782) in view of Markulec, et al. (U.S. 5,836,355).

VII. GROUPING OF THE CLAIMS

This requirement is not applicable to the present appeal since the subject of the appeal is limited to a single claim. (As explained above, the rejection given on page 2, line 10 of the Office Action of June 10, 2002 of "Claims 1 and 2" is deemed to be inaccurate since claim 2, being dependent from claim 7, which is noted to be withdrawn from consideration in a Response dated May 22, 2001, (Paper No. 27), is itself withdrawn from consideration). Claim 1 is a generic claim.

VIII. ARGUMENTS

A. Examiner's Rejections

In the Office Action dated June 10, 2002, the Examiner repeats rejections given earlier in Office Action's dated February 25, 2002 and October 1, 2001, respectively, of claim 1 under 35 U.S.C. §103(a) as being unpatentable over Itafuji (5,819,782) in view of Markulec, et al. (5,836,355). It continues to be the Examiner's position that Itafuji shows a gas supply system including on-off valves 4 and 6 and a mass flow controller (MFC) 5 wherein the ports of the

valves are in a row and mounting blocks have ports that are coplanar. The mounting blocks of Itafuji are also seen to include fluid channels, presumed to be the channels 16b through 16e, connecting the inlets and outlets of the various valves. Markulec, et al., on the other hand, is relied upon as showing a similar fluid system in which “all of the bases (of the components) have a standardized face and all of the components, including the valves, have a standardized face such that any component may be mounted to any block ...”

The Examiner concludes therefore that it would have been obvious for one of ordinary skill in the art to have used the standardized mounting scheme of Markulec, et al. in the system of Itafuji.

B. Relevant Claim Language

The following specific limitations in claim 1 are not described in the prior art relied upon in the rejection:

a) “each of the on-off devices being of the type selected from the group including a 2-type on-off device having a two port valve, a 2-3-type on off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having two-port valve and two three port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves,” (lines 6 to 10);

b) “main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each

being formed in the bottom face thereof with an inlet port, an outlet port always in connection with the inlet port, and an inlet-outlet port subopening having a port separate from said inlet port and said outlet port,” (lines 11 to 16);

c) “each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line,” (lines 17 and 18); and

d) “valve mounts mounting said valve main bodies including a plurality of joint members having ... a channel for holding the adjacent inlet port and outlet port of adjacent valves in connection,” (lines 19 to 21).

As to limitation a), neither of the Itafuji or Markulec, et al. references contemplate use of an on-off device which is one selected from a group consisting of the recited five kinds of valves. As to limitation b) neither the Itafuji reference nor the Markulec, et al reference shows the main bodies of all two-port valves being identically formed nor the main bodies of all three port valves being identically formed. (As shown in the respective drawing figures of the Itafuji patent, while valves, such as those identified as 33 and 35 may be identically formed, other valves, such as valve 36, employ a main body having a different port configuration. None of the valves of Itafuji are seen to be two-port valves since valve 4 of Figure 3, when considered by the showings of Figures 3 and 5 to have four ports, and the valve 7 of Figure, 3 when considered against Figures 3 and 6, is shown to have three ports.) As to limitation c), there are, as stated above, no two-port valves in the disclosed gas supply arrangement. Finally, as to limitation d), the valve mounts disclosed by Itafuji for use with adjacent valves are integrally formed valve mounts, such as that identified in the drawings as 16, and not “a plurality of joint members” as required by the claim.

It is respectfully submitted that, contrary to the present invention in which the internal channels of each joint member 31, 33, 34, etc. are arranged to interconnect ports of adjacent valves, the internal channels in the respective blocks Markulec, et al. are, as shown in Figure 6a and as explained in column 19, lines 51 to 59 of the reference, designed to communicate with ports of the same valves, and interconnection of adjacent valves is achieved by the interconnection of ports in adjacent blocks. Consequently, even if the teachings of Markulec, et al. were properly combinable with those of Itafuji it is abundantly clear that the limitation identified as d)above would not be met.

For the foregoing reasons, therefore, it is submitted that the Examiner's rejection of claim 1 as being unpatentable under 35 U.S.C. §103(a) over the Itafuji patent taken in view of Markulec, et al. is improper and, consequently, should be reversed.

IX. CONCLUSION

The foregoing establishes that the prior art relied upon by the Examiner in rejecting claim 1 fails to either teach or suggest a fluid control device as particularly defined in claim 1. The Board of Patent Appeals is accordingly requested to reverse the Examiner's rejection.

Serial No. 09/023,416

In the event this paper is not timely filed, Appellant hereby petitions for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



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Enclosures: Appendix

APPENDIX

1. (Amended). A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices comprising one valve or a plurality of valves, with the adjacent valves interconnecting each other without using tubing,

each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3 -type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves,

main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation and having a channel for holding the adjacent inlet port and outlet port of adjacent valves in communication, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.